Copy

Coiners Office U.S. Branch Mint
New Orleans January 5th 1847

To
J. W. Kennedy. Esq.
Superintendent
Sir,

As I am about to leave this institution in which I have devoted over seven years of my mechanical abilities to the improvement of the Machinery and the process of coining generally, it may not be inappropriate for me to call your attention to the present condition of the Coining department, and point out some of the particular improvements which have been made, and the extent to which these improvements have lessened the labor and expense of coining -

The hot rolling of ingots was formerly performed by three men, the ingots being required to pass through the rolls as many times as possible while hot, rendered it necessary to turn the Keys for setting the rolls closer together every time they passed through - To avoid this loss of time and dispense with the more necessary to catch the ingot with tongs as it came through, and hand it back to the operator, I arranged a simple apparatus for conducting the ingot through and from the rolls, to a position to be taken again by the operator - This was found to be so expeditious that six ingots could be rolled while hot by one turning the Keys, I thus dispensed with one man, and expedited the work about 200 per ct

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and brought the ingots out more straight, which made them more convenient to handle in the subsequent operations — But this had not been in operation long, before it was discovered by the ingenious and highly talented Chief Coiner of the Mother Mint, that there was no necessity for rolling ingots hot — This was indeed a very important discovery and allowed us at once to make arrangement for rolling a much greater number without stopping to turn the Key. The Apparatus for conducting the ingots through the rolls was now more useful than before, and it then only required a set of cans adapted to the purpose for receiving the proper number of ingots at one time, to bring this operation to its present state of perfection, by which a boy fourteen years old, can, <u>break down</u> (as this operation is called) 50.000 Oz. of Silver ingots in a day. The advantages here attained were extended as far as practicable to the rolls for finishing strips, so that only one man is now required for that purpose, and he can perform just as much work as ten men could formerly —

The annealing of Strips next claimed my attention this was an extremely tedious and laborious operation, as every strip was required to be bent into the form of an S to enable them to lie upon their edges when placed in the furnace I caused to be made a set of iron clamps which would receive fifty strips each, and hold them in such form that they could be moved about in the furnace to prevent any one part of them from getting more heated than another It was found that the strips could be much more easily placed in the clamps than bent, as was formerly required, and

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that 150 to 200 Strips could be put at one time into the furnace, and that they could be much more evenly heated than before, when only 50 Strips could be at one time put into the furnace, and with less attention from the workmen. It was also found that the tedious operation required before, of straightening the strips was entirely dispensed with, and as by a single movement of the operator the 50 strips were made perfectly straight, in which state they were all by one movement immersed in water, and again all by once handling placed on a car, thus saving the time of handling each strip seperately for each of these purposes, besides obviating entirely the evils arising from the short cuts which could not be avoided by the old plan. I think it may safely be said that 50 per cent of the labor in annealing is saved by this process of clamping, while a degree of perfection is attained which by the old process could not be effected — An object attained in this branch of the business worth mentioning is, that one man can perform alone, every operation of completing the strips from ingots — The next important improvement adopted here, was that of greasing the strips without dipping and was invented by Mr. Peale of the mother Mint —

The drawing is next in the process of the operation, the improvement made in the machine for this purpose needs no better commendation, than that it was immediately adopted at the Mother Mint — The drawing is now performed by one man, nearly twice as fast as it formerly was by two, the whole cost of the alteration in this machine not exceeding $10 —

A greater degree of safety and expedition has been effected

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acid would then remain and give a thick white coating to the silver, which required a greater pressure to remove, and the remaining acid I have thought acted somewhat upon the face of the coining dies — The planchetts are taken to the roaster by the same crane — The roaster and riddler combined is one of the best improvements made here, it is a double cylinder containing saw dust heated by steam from the engine boiler. The heating is instantaneous, while there is no danger of overheating and staining the saw dust. The cylinder is caused to revolve by the action of a belt from the shaft of the Steam Engine, and when the planchetts are heated, so that the moisture is removed, a door is opened in the end of the steam cylinder, and the planchetts pass into another cylinder attached thereto, perforated with holes which will not allow the smallest coin to pass through, but as they revolve, will perfectly riddle the saw dust from them — The axis of the machine being placed on an angle of about 10 degrees from the level line, causes the planchetts to reach the lowest end by the time they are sufficiently riddled — another door is then opened and they pass out into a box placed upon a car for drawing them away — The improvement in this process enables one man to bleach with ease 40.000 Oz. of silver planchetts in a day, while by the former process two men were required to perform the operation and they could not bleach as much as one can now do, while some part of their work was extremely laborious — The planchetts are also much improved by this process for stamping — Much of my time was formerly spent in making alterations or repairs in the coining presses, for, when I commenced my duties here not more than one of them was in a condition to be depended

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upon for a single day, without interruption — All the improvements which have been made in the Mother Mint in these machines have been introduced here, so far as was practicable, and the new dollar press, embodies, it is believed, all the improvements which have been made in these machines — It was built from the patterns of the splendid machine of the same dimensions in the Mother Mint, and it is believed is as well made in every respect as that machine —

Much of my attention was given to remodelling our Coining room and arranging the machinery in its present position, so as to meet your wishes with regard to the requirements of that branch of the business, as well as to present a tasteful exhibition to the eye of visitors &c in all of which my anticipations have been fully met —

It has not been until quite lately that the improvements here enumerated have been so far completed as to test their full efficiency in connexion with each other, but for some months past it has been my object to test fairly the number of workmen required to man the department efficiently for the business required of it, and I have become fully convinced that nine men including the foreman are all that can at any time be required even with an increase of one or two hands in the melting department — I have fully tested every branch of the business, and find that seven men will fully man the machinery for coining 15.000 ℔ of silver in a day and perform it regularly, which is much more than the average requirements of the department heretofore — One machinist can do all the regular repairing and fitting

of Machinery, and I think one man should be retained as a kind of porter to transfer the Bullion from one depart to another, and to assist in counting &c, which will make the department complete with its officer and nine men.

It is not probable that the melting department with its present number of five men can supply the coining department with nine — I would therefore recommend that two more be added to that department, and that the three other surplus men, be dispensed with as soon as convenient, and if it is desirable to keep the present number of workmen upon the Payroll, let the porters & door Keeper be attached to it —

Such is my conviction that the above number is all that can be required in the coining department, that were I to remain here, I should devise that the department might be put at once upon that basis —

Very Respectfully
& faithfully yrs
R B Taylor

Coiner

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